Format No. CP/TF/01

TEST REPORT OF PHYSICAL PROPERTIES OF CEMENT - 53 Grade

Lab ID	:	**CP-2019-10-17-26** **Date: 14-10-19**
Customer	:	Assistant Executive Engineer, Vidyaranyapura Sub Division, BBMP, Bangalore.
Address	:	Vidyaranyapura Sub Division, BBMP, Bangalore.
Project Name	:	Improvements and Asphalting to Roads at Doddabommasandra and Surrounding Areas in Ward No.09 (Vidyaranyapura) Vidyaranyapura Sub Division.
Agency	:	M/s.S.S. Road Developers, Sri.A.S.Mani, #2/2, 1st Cross, Masjid Street, BSA Road, Frazer Town, Bangalore-560 005.
Customer's Reference	:	BBMP/EE/BTP/WO/107/2019-20
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	11-10-19
Sample Type	:	Birla Super 53grade
Reference to BIS codes	:	IS 12269 : 2013, 53 Grade Ordinary Portland cement Specification , IS 4031 (Part 1,2 3,4,5, 6,11) 1988 IS 4031 Part 1 DETERMINATION OF FINENESS BY DRY SIEVING, Clause 4.4 IS 4031 Part 2, Determination of Fineness by Blaine Air Permeability Method, Clause 5 IS 4031 Part 3, Determination of Soundness, Clause 5,Clause 6 IS 4031 Part 4, Determination of Consistency of Standard Cement Paste, Clause 5 IS 4031 Part 5, Determination of Initial & Final Setting Time, Clause 5 IS 4031 Part 11,DETERMINATION OF DENSITY , Clause 6
Date of test	:	12-10-19
Environmental Conditions during test	:	Temperature: 26°C Humidity: 72%

Sl.No.	Physical properties	Results	Requirement as per IS 12269: 2013
1	Fineness by dry sieving (%)	1.85	–
2	Finess by Air permeablity method (m^2/kg,Min)	348.6	225m^2/kg, Min
3	Density (gm/cc)	3.12	–
4	Standard Consistency (%)	28.5%	Not specified
5	Initial Setting time	135 minutes	Not less than 30 minutes
6	Final Setting time	245 minutes	Not more than 600 minutes
7	Soundness (Le Chatelier's Method)	1.5mm	Not more than 10 mm

Note:

The results pertain to the samples received and tested

All information furnished by Customer/Representative

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R RUDRAPRASAD
Authorized Signatory
Technical Manager

Page 1/1
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Format No: CP/TF/01

TEST REPORT OF PHYSICAL PROPERTIES OF CEMENT - 53 Grade

Lab ID	:	**CP-2019-10-17-26** **Date: 19-10-19**
Customer	:	Assistant Executive Engineer, Vidyaranyapura Sub Division, BBMP, Bangalore.
Address	:	Vidyaranyapura Sub Division, BBMP, Bangalore.
Project Name	:	Improvements and Asphalting to Roads at Doddabommasandra and Surrounding Areas in Ward No.09 (Vidyaranyapura) Vidyaranyapura Sub Division.
Agency	:	M/s.S.S. Road Developers, Sri.A.S.Mani, #2/2, 1st Cross, Masjid Street, BSA Road, Frazer Town, Bangalore-560 005.
Customer's Reference	:	BBMP/EE/BTP/WO/107/2019-20
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	11-10-19
Sample Type	:	Birla Super 53grade
Reference to BIS codes	:	IS 12269 2013, 53 Grade Ordinary Portland cement Specification , IS 4031 Part 4, Determination of Consistency of Standard Cement Paste, Clause 5 IS 4031 Part 6, Determination of Compressive Strength, Clause 6
Date of test	:	12-10-19
Environmental Conditions during test	:	Temperature: 26°C Humidity: 72%

Compressive Strength

Sl.No.	Physical properties	Results	Requirement as per IS 12269: 2013
1	3 Days	28.5N/mm^2	Not less than 27 N/mm^2
2	7 Days	39.0N/mm^2	Not less than 37 N/mm^2
3	28 Days	58.5N/mm^2	Not less than 53 N/mm^2

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Technical Manager

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TEST REPORT ON COARSE AGGREGATES

Lab ID	:	**CP-2019-10-17-26** **Date: 14-10-19**
Customer	:	Assistant Executive Engineer, Vidyaranyapura Sub Division, BBMP, Bangalore.
Address	:	Vidyaranyapura Sub Division, BBMP, Bangalore.
Project Name	:	Improvements and Asphalting to Roads at Doddabommasandra and Surrounding Areas in Ward No.09 (Vidyaranyapura) Vidyaranyapura Sub Division.
Agency	:	M/s.S.S. Road Developers, Sri.A.S.Mani, #2/2, 1st Cross, Masjid Street, BSA Road, Frazer Town, Bangalore-560 005.
Customer's Reference	:	BBMP/EE/BTP/WO/107/2019-20
Source of Sample	:	Sample supplied by Agency
Sample condition	:	Satisfactory
Date of Receipt	:	11-10-19
Sample Type	:	40mm down size coarse aggregate
Reference to BIS codes	:	IS: 383:2016 (Specification for Coarse and fine Aggregates) IS: 2386 :1963(Part - 1,3,4) RA2011 IS 2386 Part 1: Particle Size and Shape IS 2386 Part 3: Specific gravity, Density, Voids,Water Absorption IS 2386 Part 4: Mechanical Properties
Date of test	:	11-10-19

SIEVE ANALYSIS (PARTICLE SIZE DISTRIBUTION) OF 40MM DOWN COARSE AGGREGATE:

Total weight taken : 15000 grams

Sample No.	Sieve No.	Weight Retained in gms	Cumulative Weight Retained in gms	% Cumulative Weight Retained	% Passing	Required as per IS 383:2016
1	80 mm	0	0	0.0	100	100
2	40 mm	215	215	1.4	98.6	90-100
3	20 mm	7455	7670	51.1	48.9	30-70
4	10 mm	4266	11936	79.6	20.4	10-35
5	4.75 mm	2844	14780	98.5	1.5	0-5
6	Pan	220	15000	100.0	0	---

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Format No: CP/TF/01

TEST REPORT ON COARSE AGGREGATES

Lab ID : **CP-2019-10-17-26** **Date: 14-10-19**

PHYSICAL PROPERTIES

Sl.no	Tests	Result	Requirements as per IS:383-2016
1	Flakiness Index(%)	11.9	Combined Flakiness & Elongation Index Shall not Exceed 40% for Uncrushed & Crushed Aggregate
2	Elongation Index(%)	12.3	
3	Specific Gravity	2.64	-
4	Bulk Density(Loose) (Kg/l)	1.41	-
5	Bulk Density(Compacted) (Kg/l)	1.47	-
6	Water Absorption(%)	0.23	-

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TEST REPORT ON COARSE AGGREGATES

Lab ID	:	**CP-2019-10-17-26** **Date: 14-10-19**
Customer	:	Assistant Executive Engineer, Vidyaranyapura Sub Division, BBMP, Bangalore.
Address	:	Vidyaranyapura Sub Division, BBMP, Bangalore.
Project Name	:	Improvements and Asphalting to Roads at Doddabommasandra and Surrounding Areas in Ward No.09 (Vidyaranyapura) Vidyaranyapura Sub Division.
Agency	:	M/s.S.S. Road Developers, Sri.A.S.Mani, #2/2, 1st Cross, Masjid Street, BSA Road, Frazer Town, Bangalore-560 005.
Customer Reference	:	BBMP/EE/BTP/WO/107/2019-20
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	11-10-19
Sample Type/ Size	:	20mm down size coarse aggregate
Reference to BIS codes	:	IS: 383:2016 (Specification for Coarse and fine Aggregates) IS: 2386 :1963(Part - 1,3,4) RA2011 IS 2386 Part 1: Particle Size and Shape IS 2386 Part 3: Specific gravity, Density, Voids,Water Absorption IS 2386 Part 4: Mechanical Properties
Date of test	:	11-10-19

SIEVE ANALYSIS (PARTICLE SIZE DISTRIBUTION) OF 20MM DOWN COARSE AGGREGATE:

Total weight taken : 5000 grams

Sample No.	Sieve No.	Weight Retained in gms	Cumulative Weight Retained in gms	% Cumulative Weight Retained	% Passing	Required as per IS 383:2016
1	40 mm	0	0	0	100	100
2	20 mm	225	225	4.5	95.5	90-100
3	10 mm	2845	3070	61.4	38.6	25-55
4	4.75 mm	1745	4815	96.3	3.7	0-10
5	Pan	185	5000	100	0	

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TEST REPORT ON COARSE AGGREGATES

Lab ID : **CP-2019-10-17-26** **Date: 14-10-19**

PHYSICAL PROPERTIES

Sl.no	Tests	Result	Requirements as per IS:383-2016
1	Flakiness Index(%)	13.2	Combined Flakiness & Elongation Index Shall not Exceed 40% for Uncrushed & Crushed Aggregate
2	Elongation Index(%)	10.1	
3	Specific Gravity	2.68	—
4	Bulk Density(Loose) (Kg/l)	1.43	—
5	Bulk Density(Compacted) (Kg/l)	1.49	—
6	Water Absorption(%)	0.23	—
7	Aggregate crushing Value(%)	22.9	Max 30% for Aggregates to be used in concrete for wearing Surface. In case Aggregate Crushing Value Exceeds 30% then the test for ten percent fines should be conducted for Aggregates to be used in concrete other than for wearing Surface.
8	Aggregate Impact Value(%)	23.7	30% for Aggregates to be used in concrete for wearing Surface, 45% for Aggregates to be used in concrete other than for wearing Surface.

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Technical Manager

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TEST REPORT OF FINE AGGREGATE

Lab ID : **CP-2019-10-17-26** **Date: 14-10-19**

Customer : Assistant Executive Engineer, Vidyaranyapura Sub Division, BBMP, Bangalore.

Address : Vidyaranyapura Sub Division, BBMP, Bangalore.

Project Name : Improvements and Asphalting to Roads at Doddabommasandra and Surrounding Areas in Ward No.09 (Vidyaranyapura) Vidyaranyapura Sub Division.

Agency : M/s.S.S. Road Developers, Sri.A.S.Mani, #2/2, 1st Cross, Masjid Street, BSA Road, Frazer Town, Bangalore-560 005.

Customer's Reference : BBMP/EE/BTP/WO/107/2019-20

Source of Sample : Sample supplied by Agency

Sample Condition : Satisfactory

Date of Receipt : 11-10-19

Sample Type : Fine Aggregate

Reference to BIS codes : IS 383 : 2016 (Specification for Coarse and fine Aggregates)
IS: 2386 :1963(Part - 1, 3) RA2012
IS 2386 Part 1: Particle Size and Shape
IS 2386 Part 3: Specific gravity, Density, Voids,Water Absorption

Date of test : 11-10-19

Total weight taken : 1000 grams

Sl.no	Sieve Size	Weight Retained (gms)	Cumulative Weight Retained (gms)	% Cumulative Weight Retained	% Passing	Requirement as per IS 383:2016			
						Grading Zone I	Grading Zone II	Grading Zone III	Grading Zone IV
1	10 mm	0	0	0.0	100.0	100	100	100	100
2	4.75 mm	27	27	2.7	97.3	90-100	90-100	90-100	95-100
3	2.36 mm	55	82	8.2	91.8	60-95	75-100	85-100	95-100
4	1.18 mm	239	321	32.1	67.9	30-70	55-90	75-100	90-100
5	600 micron	205	526	52.6	47.4	15-34	35-59	60-79	80-100
6	300 micron	203	729	72.9	27.1	5-20	8-30	12-40	15-50
7	150 micron	191	920	92.0	8.0	0-10	0-10	0-10	0-15
8	Pan	80	1000	100.0	0.0	---	---	---	---

Result :The tested Sample Conforms to Grading Zone II

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TEST REPORT OF FINE AGGREGATE

Lab ID : **CP-2019-10-17-26** **Date: 14-10-19**

PHYSICAL PROPERTIES

Sl.no	Tests	Result	Requirements as per IS 383:2016
1	Water Absorption(%)	1.5	-
2	Specific Gravity	2.59	-
3	Material finer than 75 micron(%)	6.9	Uncrushed fine Aggregate Max 3%, Crushed Fine aggregate Max 15%, Mixed Fine aggregate Max 12%, Manufactured Fine aggregate Max 10%

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Format No: CP/TF/01

TEST REPORT ON PHYSICAL REQUIREMENTS OF SOLID CONCRETE BLOCKS

Date: 21-10-19

Lab ID	:	**CP-2019-10-17-26**
Customer	:	Assistant Executive Engineer, Vidyaranyapura Sub Division, BBMP, Bangalore.
Address	:	Vidyaranyapura Sub Division, BBMP, Bangalore.
Project Name	:	Improvements and Asphalting to Roads at Doddabommasandra and Surrounding Areas in Ward No.09 (Vidyaranyapura) Vidyaranyapura Sub Division.
Agency	:	M/s.S.S. Road Developers, Sri.A.S.Mani, #2/2, 1st Cross, Masjid Street, BSA Road, Frazer Town, Bangalore-560 005.
Customer's Reference	:	BBMP/EE/BTP/WO/107/2019-20
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	18-10-19
Sample Type/Size	:	Solid concrete blocks size (400X150X200)mm
Reference to BIS codes	:	IS : 2185 (Part 1) : 2005(RA 2010) Concrete Masonry Specification Part 1:Hollow and Solid Concrete Blocks (Dimensions -Annex-B, Clause 9.2 and 10 , Block density Annex -C Clause 9.3 and10, Compressive strength Annex -D Clause 9.4 and 10, Water absorption Annex -E Clause 9.5 and 10)
Date of test	:	18-10-19

BLOCK DENSITY:

Sl. No.	Measurement of overall Dimensions of Individual Blocks			Overall Volume of the Block in Cubic Centimetres	Weight of Oven Dried Block in Kilograms to the nearest 10 Gram	Block Density in Kg/cum*10^6	Avg.Block Density in (Kg/cum)	As per IS 2185(Part 1) :2005 (RA 2010)
	Length	Breadth	Height					
	mm	mm	mm	(Cm^3)	Kg	Kg/m^3	Kg/m^3	
1	404	151	200	12201	31.530	2584.3	2664.8	Not less than 1800Kg/m^3
2	398	152	198	11978	31.362	2618.2		
3	398	149	199	11801	32.948	2792.0		

WATER ABSORPTION:

Sl. No.	Wet weight after water absorption	Dry weight (Oven dry)	Water Absorption	Avg.Water Absorption	As per IS 2185(Part 1):2005 (RA 2010)
	kg	kg	%	%	
1	33.91	32.28	4.81	4.23	Shall not be more than 10% by mass
2	33.57	32.14	4.28		
3	33.44	32.24	3.59		

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Lab ID : **CP-2019-10-17-26** **Date: 21-10-19**

DIMENSION ANALYSIS

Sl.no	Length mm	Breadth mm	Height mm	Requirement as per IS 2185(Part 1):2005
1	403	149	200	Length : ± 5mm Breadth : ± 3mm Height : ± 3mm
2	404	153	202	
3	399	151	202	
4	403	150	199	
5	402	149	203	
6	403	150	200	
7	403	152	203	
8	400	151	200	
9	402	150	202	
10	401	151	202	
11	402	151	202	
12	400	152	201	
13	401	151	203	
14	404	150	201	
15	401	152	202	
16	404	152	200	
17	402	152	199	
18	404	151	203	
19	402	153	200	
20	402	152	200	
Average of 20	**402**	**151**	**201**	

ME-W-09

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Lab ID : CP-2019-10-17-26

Date: 21-10-19

COMPRESSIVE STRENGTH:

Sl. No.	Size of solid block		Area	Failure Load	Compressive strength	Average Compressive strength
	Length	Breadth				
	mm	mm	(mm^2)	(KN)	N/mm^2	(N/mm^2)
1	403	149	60063	283.4	4.7	4.5
2	404	153	61786	253.3	4.1	
3	399	151	60290	279.8	4.6	
4	403	150	60501	275.0	4.5	
5	402	149	59854	265.7	4.4	
6	403	150	60390	288.6	4.8	
7	403	152	61297	263.0	4.3	
8	400	151	60355	279.2	4.6	

As per IS Requirements (Table 2, Clause 5.1, 5.2 and 9.4)

Compressive strength		
Grade	Minimum average	Minimum Individual units.
C (5.0)	5.00 N/mm^2	4.00 N/mm^2
C (4.0)	4.00 N/mm^2	3.20 N/mm^2

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Technical Manager

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Format No: CP/TF/01

TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : CP-2019-10-17-26

Date: 22/10/2019

Customer : Assistant Executive Engineer, Vidyaranyapura Sub Division, BBMP, Bangalore.

Address : Vidyaranyapura Sub Division, BBMP, Bangalore.

Project Name : Improvements and Asphalting to Roads at Doddabommasandra and Surrounding Areas in Ward No.09 (Vidyaranyapura) Vidyaranyapura Sub Division.

Agency : M/s.S.S. Road Developers, Sri.A.S.Mani, #2/2, 1st Cross, Masjid Street, BSA Road, Frazer Town, Bangalore-560 005.

Customer's Reference : BBMP/EE/BTP/WO/107/2019-20

Source of Sample : Sample supplied by Agency

Sample Condition : Satisfactory

Date of Receipt : 17-10-19

Customer ID : PCC

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M15 / 7 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 Methods of Tests for Strength of Concrete Cl.5

Date of test : 22/10/2019

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	PCC	M15	15/10/2019	22/10/2019	151.29 X 150.18 X 149.35	22721	8.965	294.4	13.0	12.7
2	PCC	M15	15/10/2019	22/10/2019	151.61 X 151.39 X 151.80	22952	8.842	292.6	12.8	
3	PCC	M15	15/10/2019	22/10/2019	150.76 X 149.87 X 149.80	22595	8.587	277.9	12.3	

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TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : **CP-2019-10-17-26** **Date: 12/11/2019**

Customer : Assistant Executive Engineer, Vidyaranyapura Sub Division, BBMP, Bangalore.

Address : Vidyaranyapura Sub Division, BBMP, Bangalore.

Project Name : Improvements and Asphalting to Roads at Doddabommasandra and Surrounding Areas in Ward No.09 (Vidyaranyapura) Vidyaranyapura Sub Division.

Agency : M/s.S.S. Road Developers, Sri.A.S.Mani, #2/2, 1st Cross, Masjid Street, BSA Road, Frazer Town, Bangalore-560 005.

Customer's Reference : BBMP/EE/BTP/WO/107/2019-20

Source of Sample : Sample supplied by Agency

Sample Condition : Satisfactory

Date of Receipt : 17-10-19

Customer ID : PCC

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M15 / 28 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 Methods of Tests for Strength of Concrete Cl.5

Date of test : 12/11/2019

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	PCC	M15	15/10/2019	12/11/2019	150.05 X 151.71 X 149.58	22764	**8.264**	395.9	17.4	17.6
2	PCC	M15	15/10/2019	12/11/2019	149.31 X 149.60 X 149.97	22336	**8.693**	400.2	17.9	
3	PCC	M15	15/10/2019	12/11/2019	149.43 X 151.27 X 150.71	22605	**8.167**	392.5	17.4	

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TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : CP-2019-10-17-26

Date: 22/10/2019

Customer : Assistant Executive Engineer, Vidyaranyapura Sub Division, BBMP, Bangalore.

Address : Vidyaranyapura Sub Division, BBMP, Bangalore.

Project Name : Improvements and Asphalting to Roads at Doddabommasandra and Surrounding Areas in Ward No.09 (Vidyaranyapura) Vidyaranyapura Sub Division.

Agency : M/s.S.S. Road Developers, Sri.A.S.Mani, #2/2, 1st Cross, Masjid Street, BSA Road, Frazer Town, Bangalore-560 005.

Customer's Reference : BBMP/EE/BTP/WO/107/2019-20

Source of Sample : Sample supplied by Agency

Sample Condition : Satisfactory

Date of Receipt : 17-10-19

Customer ID : PCC

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M15 / 7 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 Methods of Tests for Strength of Concrete Cl.5

Date of test : 22/10/2019

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	PCC	M15	15/10/2019	22/10/2019	150.92 X 150.41 X 151.12	22700	8.965	288.4	12.7	12.4
2	PCC	M15	15/10/2019	22/10/2019	151.49 X 149.24 X 149.28	22608	8.842	274.9	12.2	
3	PCC	M15	15/10/2019	22/10/2019	151.79 X 149.73 X 150.57	22728	8.587	279.1	12.3	

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Format No: CP/TF/01

TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : **CP-2019-10-17-26** **Date: 12/11/2019**

Customer : Assistant Executive Engineer, Vidyaranyapura Sub Division, BBMP, Bangalore.

Address : Vidyaranyapura Sub Division, BBMP, Bangalore.

Project Name : Improvements and Asphalting to Roads at Doddabommasandra and Surrounding Areas in Ward No.09 (Vidyaranyapura) Vidyaranyapura Sub Division.

Agency : M/s.S.S. Road Developers, Sri.A.S.Mani, #2/2, 1st Cross, Masjid Street, BSA Road, Frazer Town, Bangalore-560 005.

Customer's Reference : BBMP/EE/BTP/WO/107/2019-20

Source of Sample : Sample supplied by Agency

Sample Condition : Satisfactory

Date of Receipt : 17-10-19

Customer ID : PCC

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M15 / 28 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 Methods of Tests for Strength of Concrete Cl.5

Date of test : 12/11/2019

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	PCC	M15	15/10/2019	12/11/2019	150.42 X 150.06 X 150.19	22573	**8.264**	385.6	17.1	17.2
2	PCC	M15	15/10/2019	12/11/2019	151.22 X 150.56 X 149.57	22767	**8.693**	390.0	17.1	
3	PCC	M15	15/10/2019	12/11/2019	149.73 X 149.62 X 150.45	22403	**8.167**	389.8	17.4	

Note:

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Format No: CP/TF/01

TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : **CP-2019-10-17-26** **Date: 22/10/2019**

Customer : Assistant Executive Engineer, Vidyaranyapura Sub Division, BBMP, Bangalore.

Address : Vidyaranyapura Sub Division, BBMP, Bangalore.

Project Name : Improvements and Asphalting to Roads at Doddabommasandra and Surrounding Areas in Ward No.09 (Vidyaranyapura) Vidyaranyapura Sub Division.

Agency : M/s.S.S. Road Developers, Sri.A.S.Mani, #2/2, 1st Cross, Masjid Street, BSA Road, Frazer Town, Bangalore-560 005.

Customer's Reference : BBMP/EE/BTP/WO/107/2019-20

Source of Sample : Sample supplied by Agency

Sample Condition : Satisfactory

Date of Receipt : 17-10-19

Customer ID : PCC

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M15 / 7 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 Methods of Tests for Strength of Concrete Cl.5

Date of test : 22/10/2019

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	PCC	M15	15/10/2019	22/10/2019	149.86 X 150.61 X 149.47	22570	**8.965**	287.9	12.8	12.5
2	PCC	M15	15/10/2019	22/10/2019	151.95 X 150.98 X 150.16	22941	**8.842**	282.7	12.3	
3	PCC	M15	15/10/2019	22/10/2019	149.54 X 151.94 X 151.07	22721	**8.587**	279.4	12.3	

Note:

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Technical Manager

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Format No: CP/TF/01

TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : **CP-2019-10-17-26** **Date: 12/11/2019**

Customer : Assistant Executive Engineer, Vidyaranyapura Sub Division, BBMP, Bangalore.

Address : Vidyaranyapura Sub Division, BBMP, Bangalore.

Project Name : Improvements and Asphalting to Roads at Doddabommasandra and Surrounding Areas in Ward No.09 (Vidyaranyapura) Vidyaranyapura Sub Division.

Agency : M/s.S.S. Road Developers, Sri.A.S.Mani, #2/2, 1st Cross, Masjid Street, BSA Road, Frazer Town, Bangalore-560 005.

Customer's Reference : BBMP/EE/BTP/WO/107/2019-20

Source of Sample : Sample supplied by Agency

Sample Condition : Satisfactory

Date of Receipt : 17-10-19

Customer ID : PCC

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M15 / 28 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 Methods of Tests for Strength of Concrete Cl.5

Date of test : 12/11/2019

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	PCC	M15	15/10/2019	12/11/2019	149.22 X 150.72 X 149.55	22491	**8.264**	383.4	17.0	17.3
2	PCC	M15	15/10/2019	12/11/2019	151.19 X 150.28 X 151.89	22721	**8.693**	388.7	17.1	
3	PCC	M15	15/10/2019	12/11/2019	149.56 X 151.36 X 151.40	22637	**8.167**	403.4	17.8	

Note:

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Technical Manager

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Format No: CP/TF/01

TEST REPORT OF CEMENT CONCRETE CUBES

Date: 22/10/2019

Lab ID	:	**CP-2019-10-17-26**
Customer	:	Assistant Executive Engineer, Vidyaranyapura Sub Division, BBMP, Bangalore.
Address	:	Vidyaranyapura Sub Division, BBMP, Bangalore.
Project Name	:	Improvements and Asphalting to Roads at Doddabommasandra and Surrounding Areas in Ward No.09 (Vidyaranyapura) Vidyaranyapura Sub Division.
Agency	:	M/s.S.S. Road Developers, Sri.A.S.Mani, #2/2, 1st Cross, Masjid Street, BSA Road, Frazer Town, Bangalore-560 005.
Customer's Reference	:	BBMP/EE/BTP/WO/107/2019-20
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	17-10-19
Customer ID	:	PCC
Sample Type /Size	:	150X150X150 mm
Sample grade/Age	:	M15 / 7 Days Compressive Strength
Reference to BIS codes	:	IS: 516 - 1959 Methods of Tests for Strength of Concrete Cl.5

Date of test : 22/10/2019

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	PCC	M15	15/10/2019	22/10/2019	150.13 X 150.38 X 150.94	22577	**8.965**	290.4	12.9	12.6
2	PCC	M15	15/10/2019	22/10/2019	149.72 X 151.94 X 150.86	22749	**8.842**	287.4	12.6	
3	PCC	M15	15/10/2019	22/10/2019	150.15 X 149.21 X 150.24	22404	**8.587**	273.2	12.2	

Note:

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Format No: CP/TF/01

TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : **CP-2019-10-17-26** **Date: 12/11/2019**

Customer : Assistant Executive Engineer, Vidyaranyapura Sub Division, BBMP, Bangalore.

Address : Vidyaranyapura Sub Division, BBMP, Bangalore.

Project Name : Improvements and Asphalting to Roads at Doddabommasandra and Surrounding Areas in Ward No.09 (Vidyaranyapura) Vidyaranyapura Sub Division.

Agency : M/s.S.S. Road Developers, Sri.A.S.Mani, #2/2, 1st Cross, Masjid Street, BSA Road, Frazer Town, Bangalore-560 005.

Customer's Reference : BBMP/EE/BTP/WO/107/2019-20

Source of Sample : Sample supplied by Agency

Sample Condition : Satisfactory

Date of Receipt : 17-10-19

Customer ID : PCC

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M15 / 28 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 Methods of Tests for Strength of Concrete Cl.5

Date of test : 12/11/2019

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	PCC	M15	15/10/2019	12/11/2019	151.40 X 150.90 X 150.84	22846	**8.264**	402.0	17.6	17.6
2	PCC	M15	15/10/2019	12/11/2019	150.76 X 149.71 X 149.07	22569	**8.693**	399.4	17.7	
3	PCC	M15	15/10/2019	12/11/2019	149.80 X 151.30 X 151.77	22664	**8.167**	393.9	17.4	

Note:

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Technical Manager

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TEST RESULTS OF GRADATION FOR WMM

Lab ID : **CP-RW-2019-10-17-26** **Date: 14-10-19**

Customer : Assistant Executive Engineer, Vidyaranyapura Sub Division, BBMP, Bangalore.

Address : Vidyaranyapura Sub Division, BBMP, Bangalore.

Project Name : Improvements and Asphalting to Roads at Doddabommasandra and Surrounding Areas in Ward No.09 (Vidyaranyapura) Vidyaranyapura Sub Division.

Agency : M/s.S.S. Road Developers, Sri.A.S.Mani, #2/2, 1st Cross, Masjid Street, BSA Road, Frazer Town, Bangalore-560 005.

Customer Reference : BBMP/EE/BTP/WO/107/2019-20

Source of Sample : Sample supplied by Agency

Sample Condition : Satisfactory

Date of Receipt : 12-10-19

Type of Mix : WMM (Wet Mix Macadam)

Date of test : 12-10-19

Oven Dry Weight : 11000 Grams

IS Sieve Size(mm)	Weight Retained (gm)	Cumulative Weight Retained (gm)	% Cumulative Weight Retained	% Passing	Spec.I.Vide Table 400.13 MORTH Specification
53	0	0	0.0	100.0	100
45	315	315	2.9	97.1	95-100
22.4	2259	2574	23.4	76.6	60-80
11.2	2179	4753	43.2	56.8	40-60
4.75	2251	7004	63.7	36.3	25-40
2.36	1621	8625	78.4	21.6	15-30
0.6	623	9248	84.1	15.9	8-22
0.075	1338	10586	96.2	3.8	0-5

Note:-

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Authorized Signatory
Technical Manager

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TEST REPORT OF AGGEGRATE IMPACT VALUE
IS: 2386 Part IV

Lab ID	:	**CP-RW-2019-10-17-26** **Date: 14-10-19**
Customer	:	Assistant Executive Engineer, Vidyaranyapura Sub Division, BBMP, Bangalore.
Address	:	Vidyaranyapura Sub Division, BBMP, Bangalore.
Project Name	:	Improvements and Asphalting to Roads at Doddabommasandra and Surrounding Areas in Ward No.09 (Vidyaranyapura) Vidyaranyapura Sub Division.
Agency	:	M/s.S.S. Road Developers, Sri.A.S.Mani, #2/2, 1st Cross, Masjid Street, BSA Road, Frazer Town, Bangalore-560 005.
Customer Reference	:	BBMP/EE/BTP/WO/107/2019-20
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	12-10-19
Type of Mix	:	Coarse Aggregate for WMM (Wet Mix Macadam)
Date of test	:	12-10-19

Sl.No	Particulars of observations	Index	TEST 1	TEST 2
1	Total weight of the surface dry sample sample (passing 12.5 mm and retained on 10mm sieve)	A	300.2	300.2
2	Weight of fraction passing 2.36mm sieve After giving 15 blows	B	73.9	74.0
3	weight of fraction retained 2.36mm sieve After giving 15 blows	C	225.9	225.8
4	Total weight of (B+C) is less than the initial weight (Weight A) by more than one gram the result shall be discarded and a fresh test made.	A-(B+C)	0.4	0.4
5	Aggregate impact value	(B/A)*100	24.6	24.7
6	Aggregate impact value (Mean of two tests)	Pecentage	24.6	

Note:-

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DETERMINATION OF FLAKINESS INDEX AND ELONGATION INDEX OF COARSE AGGREGATE(IS 2386 (Part 1) 1963 (RA 2007)

Lab ID	:	**CP-RW-2019-10-17-26** **Date: 14-10-19**
Customer	:	Assistant Executive Engineer, Vidyaranyapura Sub Division, BBMP, Bangalore.
Address	:	Vidyaranyapura Sub Division, BBMP, Bangalore.
Project Name	:	Improvements and Asphalting to Roads at Doddabommasandra and Surrounding Areas in Ward No.09 (Vidyaranyapura) Vidyaranyapura Sub Division.
Agency	:	M/s.S.S. Road Developers, Sri.A.S.Mani, #2/2, 1st Cross, Masjid Street, BSA Road, Frazer Town, Bangalore-560 005.
Customer Reference	:	BBMP/EE/BTP/WO/107/2019-20
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	12-10-19
Type of Mix	:	Coarse Aggregate for WMM (Wet Mix Macadam)
Date of test	:	12-10-19

Result:

Index	Percentage of Flakiness and Elongation Index	Secified limits as per MORTH specification table 400-12
Flakiness Index	12.8%	Combined Flakiness & Elongation Index for WMM is Maximum 35%
Elongation Index	12.5%	
Combined Flakiness and Elongation Index for WMM	25.3%	

Note:-
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CIVIL Pro BANGALORE Sig..... Date.....

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Format No: CP/TF/01

TEST REPORT ON BITUMEN

Lab ID	:	**CP-RW-2019-10-17-26** **Date: 17-10-19**
Customer	:	Assistant Executive Engineer, Vidyaranyapura Sub Division, BBMP, Bangalore.
Address	:	Vidyaranyapura Sub Division, BBMP, Bangalore.
Project Name	:	Improvements and Asphalting to Roads at Doddabommasandra and Surrounding Areas in Ward No.09 (Vidyaranyapura) Vidyaranyapura Sub Division.
Agency	:	M/s.S.S. Road Developers, Sri.A.S.Mani, #2/2, 1st Cross, Masjid Street, BSA Road, Frazer Town, Bangalore-560 005.
Customer's Reference	:	BBMP/EE/BTP/WO/107/2019-20
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	16-10-19
Sample Type	:	Bitumen
Reference to BIS codes	:	IS: 1201-1220(1978) (Reaffirmed-2004)
Date of test	:	16-10-19

Test Results

Sl.no	Name of Test	Result	Requirements as per IS:73-2013
1	Penetration at 25°C , in 1/10th mm	**64**	60 to 70
2	Softening Point, °C	**51.2**	Min. 40°C
3	Ductility, cm	**98**	Min. 75cm
4	Flash point, °C	**246**	Min. 220°C
	Fire point, °C	**272**	

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CIVIL Pro Sig..... Date..... BANGALORE

****End of Report****

TEST RESULTS OF GRADATION FOR BM
(IS 2386:(Part 1) 1963 (RA2011)

Lab ID	:	CP-RW-2019-10-17-26 **Date: 21-10-19**
Customer	:	Assistant Executive Engineer, Vidyaranyapura Sub Division, BBMP, Bangalore.
Address	:	Vidyaranyapura Sub Division, BBMP, Bangalore.
Project Name	:	Improvements and Asphalting to Roads at Doddabommasandra and Surrounding Areas in Ward No.09 (Vidyaranyapura) Vidyaranyapura Sub Division.
Agency	:	M/s.S.S. Road Developers, Sri.A.S.Mani, #2/2, 1st Cross, Masjid Street, BSA Road, Frazer Town, Bangalore-560 005.
Customer Reference	:	BBMP/EE/BTP/WO/107/2019-20
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	19-10-19
Type of Mix	:	BM-Plant (Bituminous Macadam)
Date of test		19-10-19
Weight of Sample(gm)	:	5000

IS Sieve Size(mm)	Weight Retained(gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Specification Limits as per MORTH specification Table 500-7(grading -2)
26.5	0	0	0	100	100
19	165	165	3.3	96.7	90-100
13.2	512	677	13.5	86.5	56-88
4.75	2759	3436	68.7	31.3	16-36
2.36	911	4347	86.9	13.1	4-19
0.3	358	4705	94.1	5.9	2-10
0.075	232	4937	98.7	1.3	0-8
PAN	63	5000	100.0	0.0	0

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Technical Manager

CIVIL Pro Sig..... Date..... BANGALORE

PHYSICAL REQUIREMENTS FOR COARSE AGGREGATE FOR BITUMINOUS MACADAM

Lab ID	:	CP-RW-2019-10-17-26	**Date: 22-10-19**
Customer	:	Assistant Executive Engineer, Vidyaranyapura Sub Division, BBMP, Bangalore.	
Address	:	Vidyaranyapura Sub Division, BBMP, Bangalore.	
Project Name	:	Improvements and Asphalting to Roads at Doddabommasandra and Surrounding Areas in Ward No.09 (Vidyaranyapura) Vidyaranyapura Sub Division.	
Agency	:	M/s.S.S. Road Developers, Sri.A.S.Mani, #2/2, 1st Cross, Masjid Street, BSA Road, Frazer Town, Bangalore-560 005.	
Customer Reference	:	BBMP/EE/BTP/WO/107/2019-20	
Source of Sample	:	Sample supplied by Agency	
Sample Condition	:	Satisfactory	
Date of Receipt	:	19-10-19	
Type of Mix	:	BM (Bituminous Macadam)	
Date of test	:	19-10-19	

Table 500-6 : Physical Requirements fo Coarse Aggregate for Bituminous Macadam

Property	Test	Result	Specification	Method of Test
Partical Shape	Flakiness Index	13.8	Combined Flakiness & Elongation Index for BM is Maximum 35%	IS:2386 Part I
	Elongation Index	7.2		
Strength	Aggregate Impact Value	25.2	Maximum 30%	IS:2386 Part IV
Specific gravity	Specific gravity	2.51	Maximum 2.7	IS:2386 Part III
Water Absorption	Water Absorption	0.17	Maximum 2%	IS:2386 Part III

Note:-

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Page 1/1
End of Report

TEST REPORT OF AGGEGRATE STRIPPING VALUE OF ROAD AGGRGATE (IS:6241)

Lab ID	:	**CP-RW-2019-10-17-26** **Date: 21-10-19**
Customer	:	Assistant Executive Engineer, Vidyaranyapura Sub Division, BBMP, Bangalore.
Address	:	Vidyaranyapura Sub Division, BBMP, Bangalore.
Project Name	:	Improvements and Asphalting to Roads at Doddabommasandra and Surrounding Areas in Ward No.09 (Vidyaranyapura) Vidyaranyapura Sub Division.
Agency	:	M/s.S.S. Road Developers, Sri.A.S.Mani, #2/2, 1st Cross, Masjid Street, BSA Road, Frazer Town, Bangalore-560 005.
Customer Reference	:	BBMP/EE/BTP/WO/107/2019-20
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	19-10-19
Sample ID No	:	2018-01-03-01/01
Type of Mix	:	BM(Bitumnous Macadam)
Date of test	:	19-10-19

Type of Binder	:	60/70
% of Binder Used	:	5.0%
Weight of Aggregate	:	200.0 gm
Weight of Binder	:	10.0 gm
Temperature of water bath	:	40°C

No of test	Retained Stripping Percentage	Stripping Percentage	Average Retained Stripping Percentage	Secified limits as per MORTH specification table 500-8
1	98.0	2.0	98.2	Minimum Retained Coating 95%
2	98.5	1.5		
3	98.0	2.0		

Note:-
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Technical Manager

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TESTS RESULTS ON STABILITY OF MIX

Lab ID	:	**CP-RW-2019-10-17-26** **Date: 21-10-19**
Customer	:	Assistant Executive Engineer, Vidyaranyapura Sub Division, BBMP, Bangalore.
Address	:	Vidyaranyapura Sub Division, BBMP, Bangalore.
Project Name	:	Improvements and Asphalting to Roads at Doddabommasandra and Surrounding Areas in Ward No.09 (Vidyaranyapura) Vidyaranyapura Sub Division.
Agency	:	M/s.S.S. Road Developers, Sri.A.S.Mani, #2/2, 1st Cross, Masjid Street, BSA Road, Frazer Town, Bangalore-560 005.
Customer Reference	:	BBMP/EE/BTP/WO/107/2019-20
Source of Sample	:	Hot Mix Plant, Bangalore
Sample Condition	:	Satisfactory
Date of Receipt	:	19-10-19
Sample ID No	:	2018-01-03-01/01
Type of Mix	:	BM (Bituminous Mecadam)
Date of test	:	19-10-19

The results of the tests conducted on the Bituminous Macadam mix sample are as follow

Sl.No	Particulars of observations	TEST 1	TEST 2	Secified limits as per MORTH specification table 500-11
1	Marshal Stability at 60°C, KN	11.29	11.82	9KN(Min)
2	Marshal flow at 60°C, mm	3.54	3.87	2-4
3	Percent air Voids	4.56	4.17	3-5
4	Percent Voids in mineral Aggregate(VMA %)	14.54	14.76	13-15
5	Percent Voids filled with Bitumen(VFB %)	68.98	70.28	65-75
6	Density, g/cc	2.42	2.40	–

Note:-
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R RUDRAPRASAD
Authorized Signatory
Technical Manager

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TEST RESULTS OF GRADATION FOR BC
IS 2386 (Part 1) 1963 (RA 2007)

Lab ID	:	**CP-RW-2019-10-17-26** **Date: 21-10-19**
Customer	:	Assistant Executive Engineer, Vidyaranyapura Sub Division, BBMP, Bangalore.
Address	:	Vidyaranyapura Sub Division, BBMP, Bangalore.
Project Name	:	Improvements and Asphalting to Roads at Doddabommasandra and Surrounding Areas in Ward No.09 (Vidyaranyapura) Vidyaranyapura Sub Division.
Agency	:	M/s.S.S. Road Developers, Sri.A.S.Mani, #2/2, 1st Cross, Masjid Street, BSA Road, Frazer Town, Bangalore-560 005.
Customer Reference	:	BBMP/EE/BTP/WO/107/2019-20
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	19-10-19
Type of Mix	:	BC-Plant (Bituminous Concrete)
Date of test	:	19-10-19
Oven Dry Weight	:	5000 Grams

IS Sieve Size (mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Secified limits as per MORTH specification table 500-17(grading-2)
19	0	0	0.0	100.0	100
13.2	89	89	1.8	98.2	90-100
9.5	702	791	15.8	84.2	70-88
4.75	895	1686	33.7	66.3	53-71
2.36	587	2273	45.5	54.5	42-58
1.18	492	2765	55.3	44.7	34-48
0.6	503	3268	65.4	34.6	26-38
0.3	528	3796	75.9	24.1	18-28
0.15	458	4254	85.1	14.9	12-20
0.075	350	4604	92.1	7.9	4-10
PAN	396	5000	100	0.0	0

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End of Report

TEST REPORT OF AGGEGRATE STRIPPING VALUE OF ROAD AGGRGATE (IS:6241)

Lab ID	:	**CP-RW-2019-10-17-26** **Date: 22-10-19**
Customer	:	Assistant Executive Engineer, Vidyaranyapura Sub Division, BBMP, Bangalore.
Address	:	Vidyaranyapura Sub Division, BBMP, Bangalore.
Project Name	:	Improvements and Asphalting to Roads at Doddabommasandra and Surrounding Areas in Ward No.09 (Vidyaranyapura) Vidyaranyapura Sub Division.
Agency	:	M/s.S.S. Road Developers, Sri.A.S.Mani, #2/2, 1st Cross, Masjid Street, BSA Road, Frazer Town, Bangalore-560 005.
Customer Reference	:	BBMP/EE/BTP/WO/107/2019-20
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	19-10-19
Type of Mix	:	BC(Bitumenous Concrete)
Date of test	:	19-10-19

Type of Binder	:	60/70
% of Binder Used	:	5.0%
Weight of Aggregate	:	200.0 gm
Weight of Binder	:	10.0 gm
Temperature of water bath	:	40°C

No of test	Retained Stripping Percentage	Stripping Percentage	Average Retained Stripping Percentage	Secified limits as per MORTH specification table 500-8
1	98.5	1.5	98.3	Minimum Retained Coating 95%
2	98.5	1.5		
3	98.0	2.0		

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****End of Report****

PHYSICAL REQUIREMENTS FOR COARSE AGGREGATE FOR BITUMINOUS CONCRETE

Lab ID : **CP-RW-2019-10-17-26** **Date: 22-10-19**

Customer : Assistant Executive Engineer, Vidyaranyapura Sub Division, BBMP, Bangalore.

Address : Vidyaranyapura Sub Division, BBMP, Bangalore.

Project Name : Improvements and Asphalting to Roads at Doddabommasandra and Surrounding Areas in Ward No.09 (Vidyaranyapura) Vidyaranyapura Sub Division.

Agency : M/s.S.S. Road Developers, Sri.A.S.Mani, #2/2, 1st Cross, Masjid Street, BSA Road, Frazer Town, Bangalore-560 005.

Customer Reference : BBMP/EE/BTP/WO/107/2019-20

Source of Sample : Sample supplied by Agency

Sample Condition : Satisfactory

Date of Receipt : 19-10-19

Type of Mix : BC (Bituminous Concrete)

Date of test : 19-10-19

Table 500-16 : Physical Requirements fo Coarse Aggregate for Bituminous Concrete

Property	Test	Result	Specification	Method of Test
Partical Shape	Flakiness Index	12.4	Combined Flakiness & Elongation Index for BC is Maximum 35%	IS:2386 Part I
	Elongation Index	11.8		
Strength	Aggregate Impact Value	22.1	Maximum 24%	IS:2386 Part IV
Specific gravity	Specific gravity	2.68	Maximum 2.7	IS:2386 Part III
Water Absorption	Water Absorption	0.21	Maximum 2%	IS:2386 Part III

Note:-

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TESTS RESULTS ON STABILITY OF MIX

Lab ID	:	**CP-RW-2019-10-17-26** **Date: 22-10-19**
Customer	:	Assistant Executive Engineer, Vidyaranyapura Sub Division, BBMP, Bangalore.
Address	:	Vidyaranyapura Sub Division, BBMP, Bangalore.
Project Name	:	Improvements and Asphalting to Roads at Doddabommasandra and Surrounding Areas in Ward No.09 (Vidyaranyapura) Vidyaranyapura Sub Division.
Agency	:	M/s.S.S. Road Developers, Sri.A.S.Mani, #2/2, 1st Cross, Masjid Street, BSA Road, Frazer Town, Bangalore-560 005.
Customer Reference	:	BBMP/EE/BTP/WO/107/2019-20
Source of Sample	:	Hot Mix Plant, Bangalore
Sample Condition	:	Satisfactory
Date of Receipt	:	19-10-19
Type of Mix	:	BC (Bituminous Concrete)
Date of test	:	19-10-19

The results of the tests conducted on the Bituminous Concrete mix sample are as follow

Sl.No	Particulars of observations	TEST 1	TEST 2	Secified limits as per MORTH specification table 500-11
1	Marshal Stability at 60°C, KN	11.14	11.13	10KN(min)
2	Marshal flow at 60°C, mm	3.52	3.51	2-4
3	Percent air Voids	4.82	4.83	3-5
4	Percent Voids in mineral Aggregate(VMA %)	14.28	14.26	13-15
5	Percent Voids filled with Bitumen(VFB %)	71.87	71.63	65-75
6	Density, g/cc	2.25	2.26	-

Note:-

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DETERMINATION OF RATE OF SPREAD TACK COAT

Lab ID	:	**CP-RW-2019-10-17-26** **Date: 24-10-19**
Customer	:	Assistant Executive Engineer, Vidyaranyapura Sub Division, BBMP, Bangalore.
Address	:	Vidyaranyapura Sub Division, BBMP, Bangalore.
Project Name	:	Improvements and Asphalting to Roads at Doddabommasandra and Surrounding Areas in Ward No.09 (Vidyaranyapura) Vidyaranyapura Sub Division.
Agency	:	M/s.S.S. Road Developers, Sri.A.S.Mani, #2/2, 1st Cross, Masjid Street, BSA Road, Frazer Town, Bangalore-560 005.
Customer Reference	:	BBMP/EE/BTP/WO/107/2019-20
Sample Condition	:	Satisfactory
Date of Receipt	:	23-10-19
Type of Mix	:	Tack coat
Date of test	:	23-10-19

Sl.No	Determination	Unit	TEST 1	TEST 2
1	Size of Plate (mxm)	Mt	0.30 x .30	0.30 x .30
2	Area of Plate (a)	Sq.mtr	0.09	0.09
3	Initial Wt of empty Plate (b)	Kg	0.78	0.748
4	Final weight of plate after application of tack Coat (c)	Kg	0.803	0.771
5	Weight of tack Coat (d=c-b)	Kg	0.023	0.023
6	Rate of spread of tack coat	Kg/sq m	0.256	0.256
7	Average	Kg/sq.m	0.256	
8	Specified Limit	Kg/sq.m	0.250 Kg/sq.m	

Note:-
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